

What is claimed is:

1. A fuel cell power generating system comprising:  
a fuel cell unit having a coolant circulation system;  
a water storage tank for supply water to serve as coolant for said fuel cell unit;  
a water treatment system for purifying said supply water in said water storage tank  
and supplying said purified supply water as coolant to said fuel cell unit;  
heating means for heating water;  
a hot water storage tank for hot water acquired by said heating means; and  
a condensed-water supply system for supplying said water storage tank with  
condensed water obtained by condensing steam from said hot water in said hot water storage  
tank.

2. The fuel cell power generating system according to claim 1, wherein said heating  
means is constructed in such a way as to be able to heat water by using heat generated when  
said fuel cell unit generates power.

3. The fuel cell power generating system according to claim 1, wherein said  
condensed-water supply system has a heat exchanger for condensing steam from said hot  
water in said hot water storage tank by cooling that steam with auxiliary water to be supplied  
to said hot water storage tank and recovering said condensed water, and a condensed-water  
supply path for supplying said condensed water recovered by said heat exchanger to said  
water storage tank.

4. The fuel cell power generating system according to any one of claims 1 to 3,  
wherein said hot water storage tank is provided inside with a partition for defining a plurality  
of rooms in said hot water storage tank in such a way that said hot water heated by said  
heating means is led into one of said rooms and steam from said hot water in that room is  
supplied to said condensed-water supply system.

5. A method of operating a fuel cell power generating system comprising a fuel cell unit having a coolant circulation system, a water storage tank for supply water to serve as coolant for said fuel cell unit, a water treatment system for purifying said supply water in said water storage tank and supplying said purified supply water as coolant to said fuel cell unit, heating means for heating water, and a hot water storage tank for hot water acquired by said heating means, said method comprising the step of:

supplying said water storage tank with condensed water obtaining by condensing steam from said hot water in said hot water storage tank.

6. A fuel cell power generating system comprising:

a fuel cell power generating equipment for generating power by reacting the fuel gas containing a hydrogen gas with an oxidizing gas electrochemically,

a hot water storage tank for hot water heated by heat generated while power is generated by said fuel cell power generating equipment; and

a auxiliary water supply path for supplying auxiliary water to said hot water storage tank,

said fuel cell power generating equipment having a fuel cell stack, a coolant circulation path for regulating a temperature of said fuel cell stack, a heat exchanger for condensing steam in an exhaust gas discharged from said fuel cell stack and recovering said condensed water, water purifying equipment for purifying water recovered by said heat exchanger and supplying said purified water as coolant to said coolant circulation path, and heating means for heating water to provide hot water using said coolant,

whereby said heat exchanger condenses said steam in said exhaust gas by cooling said steam with said auxiliary water flowing in said auxiliary water supply path.

7. A method of operating a fuel cell power generating system comprising a fuel cell power generating equipment for generating power by reacting the fuel gas containing a

hydrogen gas with an oxidizing gas electrochemically, a hot water storage tank for hot water heated by heat generated while power is generated by said fuel cell power generating equipment, and a auxiliary water supply path for supplying auxiliary water to said hot water storage tank, wherein

said fuel cell power generating equipment has a fuel cell stack, a coolant circulation path for regulating a temperature of said fuel cell stack, a heat exchanger for condensing steam in an exhaust gas discharged from said fuel cell stack and recovering said condensed water, water purifying equipment for purifying water recovered by said heat exchanger and supplying said purified water as coolant to said coolant circulation path, and heating means for heating water to provide hot water using said coolant, and

said heat exchanger condenses said steam in said exhaust gas by cooling said steam with said auxiliary water flowing in said auxiliary water supply path.

09080672-062004